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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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08/22/2001

Tsunenori Yamamoto

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08/23/2004

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EXAMINER

AWAD, AMR A

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 08/23/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,799

Applicant(s)

YAMAMOTO ET AL.

Examiner

Amr Awad

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-29 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Z.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The Examiner has considered the references cited in the information disclosure statement filed August 22; see attached PTO-1449.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites "means for displaying a compressed image signal without developing it to a bit map in which each pixel has a gray scale information." This language is not clear because the image signal can't be displayed because it is a signal; rather what is being displayed is the image itself. Furthermore,

Art Unit: 2675

this claim seems to go totally against what is being claimed in claim 2 which recites "compressed image signal to gray scale information for each pixel; disposed inside each pixel." Claim 2 recites "means for expanding a compressed image signal to gray scale information for each pixel, disposed inside each pixel." This limitation is not clear to the examiner because a compressed image can't be expanded to gray-scale information. Furthermore, the language of "gray scale information for each pixel, disposed inside each pixel" is not clear to the examiner. Claim 3 recites "means for displaying as such a compressed image signal without increasing a data quantity of said image signal." Such language is not clear to the examiner. Claims 4-10 are rejected as being depending from rejected claim 1. The examiner respectfully requests a clarification and/or correction.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gormish (US patent NO. 6,043,802).

As to independent claim 1, Gormish teaches a display apparatus for executing display by independently applying signal to each pixel of a group of pixels arranged in matrix (figure 4A and col. 5, lines 2-5). Gormish teaches display control means for

Art Unit: 2675

displaying a compressed image signal without developing it to a bit map in which each pixel has gray scale information (for that, Gormish compressing the image by selecting only one pixel from group of four pixels as in figures 4A or 4B, or by averaging 4 pixels into one pixel as in figure 4C) (col. 5, lines 1-56).

Gormish does not expressly teach that lead wires arranged in row and column directions carry out executing display.

However, as it is well known in the art of displays, a flat panel display such as liquid crystal display for example, inherently has leading wires arranged in matrix to apply signal to each pixel in the display (from the data driver and scanning driver).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to realize that if the display device of Gormish uses a flat panel display such as liquid crystal or plasma; then the display would inherently have a leading wires to supply signal, and would have been also obvious to use such type of displays (LCD or plasma) because it is known for its reliability and superior performance, as well as its small size that reduces the requirement for space.

As to independent claim 2, the claim is similar to claim 1 except for the citation of having the display means expanding a compressed image signal to gray scale information for each pixel, disposed inside each pixel. However, as can be seen in figures 4A-4C, Gormish shows that the gray scale of 4 pixels is expanded to be represented by one pixel (col. 5, lines 26-39), which fairly reads on the claimed limitation.

Art Unit: 2675

As to independent claim 3, the claim is substantially similar to claim 1 except that claim 3 recites "display control means for displaying as such a compressed image signal without increasing a data quantity of said image signal". However, as can be seen in Gormish above, the data quantity of the image signal is not increased (as can be seen in figures 7A-7B, the data is not increased) (col. 6, line 54 through col. 7, line 8).

As to claim 4, Gormish shows that the images are being compressed by thinning the image (i.e., spatial), and also the gray scale values are changed, which fairly reads on the claimed limitation (see figures 4-5).

As to claims 5-10, Gormish (figures 4A-4C) shows pixels arranged in $N \times N'$ rows and columns to constitute a block (41), a grayscale signal having an n value smaller than $N \times N'$ (42) is defined by look-up table and is transferred to each of the blocks (col. 7, lines 3-21).

Allowable Subject Matter

8. Claims 11-29 are allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Judice (US patent NO. 3,937,878) teaches animated dithered display systems.

Art Unit: 2675

Hama et al. (US patent NO. 4,751,507) teaches a method for simultaneously displaying an image and an enlarged view of selectable portion of the image with different levels of dot detail resolution.

Killebrew, Jr. et al. (US patent NO. 6,034,663) teaches a method for providing gray scale images to the visible limit on liquid crystal displays.

Hashimoto et al. (US patent NO. 6,072,457) teaches a display driving method in which the image signal can be inputted into a panel having a smaller number of rows.

Man et al. (US patent NO. 6,417,866) teaches a method and apparatus for image display processing that reduces CPU image scaling processing.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703)308-8485. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703)305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2675

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amr Ahmed Awad
8-16-2004
A.A.